

**Abstract**

A health-monitoring device assesses the health of a user based on levels of two analytes in a biological fluid. A first analyte that is utilized to assess a user's health is a fat metabolism analyte, such as ketones, free fatty acids and glycerol, which is indicative of fat metabolism. A first analyte that is utilized is a glucose metabolism analyte, such as glucose. The levels of the two analytes may be used to assess insulin sensitivity, to detect both recent hypoglycemia and the cause of high glucose levels, and/or to guide therapeutic intervention. The dual analyte model of the present invention may be used to identify individuals at risk for metabolic syndrome, insulin resistance and non-insulin dependent diabetes, and allows monitoring of the progression of those disease states, as well as progress made by therapeutic interventions.

15